1. (4 pts) Which of the following complexes are diamagnetic? Show your work on the back of this quiz. (Circle ALL that apply)
   1. [Ni(H2O)6]2+
   2. [Co(CN)6]3-
   3. [HgI4]2-
   4. [Cu(NH3)4]2+
2. (2 pts) Name the compound [Co(en)2(NH3)CN]Cl2
3. (6 pts) The compound [Ni(NO2)Cl2Br]2- can exist in many isomers. Draw a pair of isomers that illustrate each following type of isomerization:
   1. Linkage isomers:
   2. Diastereomers:
   3. Enantiomers:
4. (3 pts) Explain why Cr3+ is violet, but Y3+ is colorless.